



# Deer Management Unit 022

## Area Description

DMU 022 is located in southern Iron and central Dickinson counties. It encompasses 897 sq. miles and has remained unchanged since 2006. Sixty-four percent of the unit is privately-owned land while 36% (323 sq. miles) is state or federally-owned public land. CFR lands comprise 25% (144 sq. miles) of the private ownership.

## Land use and habitat quality for deer

DMU 022 is located primarily in the “farm belt” of southern Iron and south-central Dickinson counties. The combination of farms interspersed with quality forest lands and private ownership provides for very good deer habitat conditions. Wood product mills located within or near the unit provide a ready market for timber products. Summer range and winter browse resources are largely dependent on the spatial and temporal characteristics of timber harvest activities.

## Typical winter weather, as related to deer

This unit is situated in the moderate snowfall zone. Deer numbers fluctuate to a greater degree than is normal in the high or low snowfall zones, building quickly in low snowfall years and dropping rapidly in high snowfall years. Snowfall totals in the Crystal Falls area have fluctuated widely over the last decade. The 2005-2016 total accumulated snowfall average for this DMU is 179 inches compared to the South WUP Total Accumulated Snowfall of 140 inches over the same time period. The quality and quantity of the deer wintering complexes determine the unit’s ability to carry deer through winter.

## Management Guidance

Antlerless harvest opportunities are normally desirable in this unit for two reasons. Some local farms are impacted by agricultural crop damage and antlerless licenses are a tool to address this problem. Public and private land forest managers believe antlerless harvesting helps to reduce deer browse impacts on forest regeneration.

## Deer Harvest Analysis

DMU 022 typically ranks 4<sup>th</sup> for bucks harvested per sq. mile in the U.P. region, averaging 3.6 bucks harvested per sq. mile between 2006-2015. The unit's 2015-2016 year average buck harvest of 2.1 bucks per sq. mile was significantly down from the long term average. An average harvest of 2.3 antlerless deer per sq. mile has been sustained during the same period, however the last 2 year's harvests were reduced by restrictions on the harvest of antlerless deer with archery equipment.

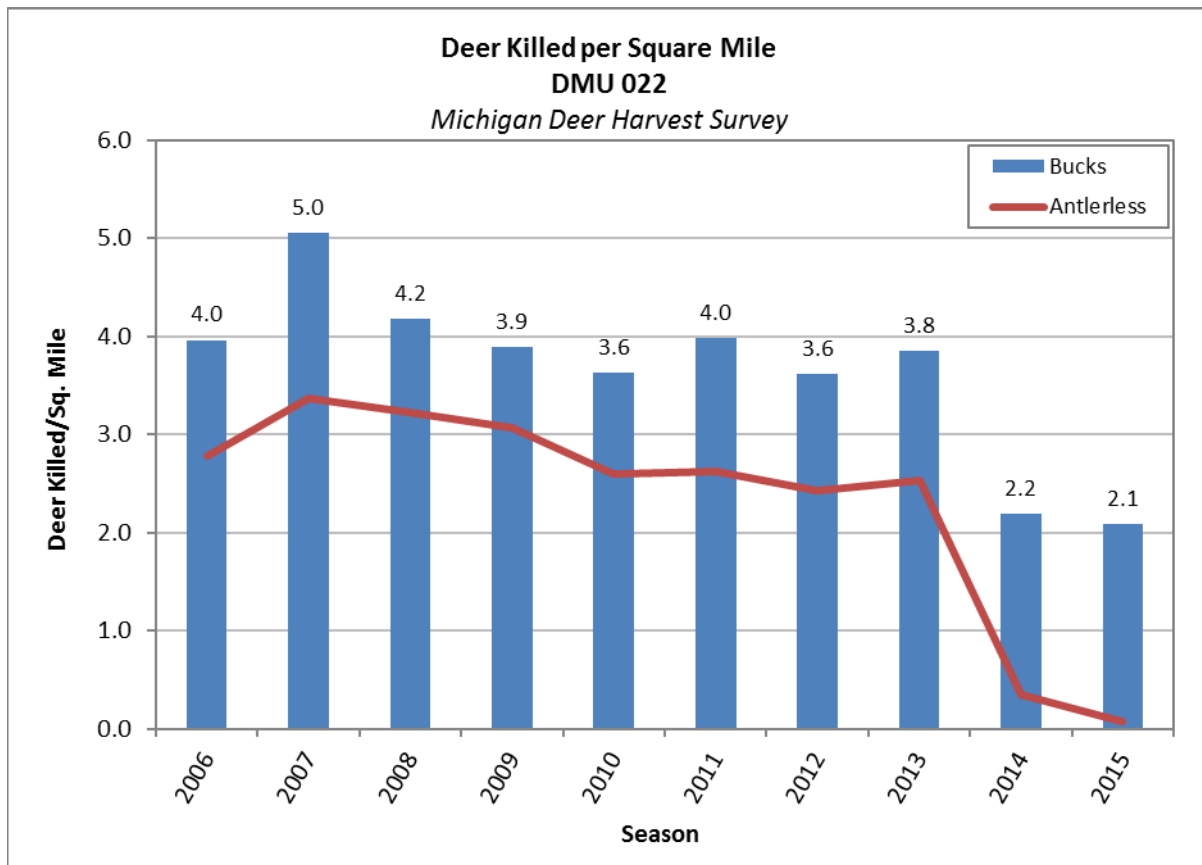


Figure 1: Graph of deer kill per square mile in DMU 022, 2006 – 2015, based on Michigan Deer Harvest Survey results.

## Additional Population Assessment Factors

### Deer sightings and hunter success/satisfaction trends

Camps from DMU 022 that participate in the U.P. Deer Camp Survey (firearm season) reported seeing 3.6 deer per hunter day on average since 2006, giving this unit a moderate ranking among other U.P. DMUs. The percentage of hunters killing a buck (17%) in 2016 is well below the unit's long term average of 30%. The 2014-2016 average fawn-to-doe ratio (44 fawns per 100 does) is below the average of 49 fawns per 100 does for the UP region. During the 2016 deer season, Hunters observed 3.2 deer per hunter day and a fawn-to-doe ratio of 60 fawns per 100 does which are both significant improvements over the declines experienced during the previous 3 years in this DMU. After mild winters, units across the UP often experience similar trends.

DEER MANAGEMENT UNIT 022											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Camps	24	20	26	29	24	22	26	23	25	26	25
Hunters	116	104	137	138	108	87	109	99	95	104	100
% killing a buck	35%	43%	40%	41%	34%	28%	40%	33%	22%	13%	17%
Deer seen per day	3.5	4.6	3.2	2.7	3.7	4.7	3.1	2.1	3	1.7	3.2
Fawns seen per 100 does	44	57	42	40	46	49	41	30	30	42	60
Does seen per buck	3	3	2	2	3	3	3	3	6	4	5
More deer than last year	29%	45%	4%	0%	17%	36%	12%	9%	8%	4%	42%
Same number deer	25%	35%	38%	18%	48%	32%	46%	13%	12%	4%	33%
Fewer deer	46%	20%	58%	82%	35%	32%	42%	78%	80%	92%	25%
Season good-to-excellent	21%	55%	54%	20%	30%	37%	54%	39%	12%	4%	13%
Season fair-to-poor	79%	45%	46%	80%	70%	63%	46%	61%	88%	96%	87%

Figure 2: Deer Camp Survey data in DMU 022.

## Research Results

A research project focusing on the role of predators, winter weather, and habitat on deer fawn survival is being conducted in the western U.P. by Mississippi State University in cooperation with the DNR. Results of this research conducted in the low and moderate snowfall zones to date suggest the following:

- high pregnancy rate among adult females despite uneven buck to doe ratios;
- low fawn annual survival following harsh winters;
- under mild to moderate winter severity, the most important factor influencing the growth (positive or negative) of a deer population is the proportion of fawns surviving their first year and becoming potential breeders;
- under severe winter conditions substantial mortality of adult females can occur, replacing recruitment of fawns as the most important factor effecting the growth of a deer population, until the adult female segment of the population recovers;
- severe winter weather can have multi-year effects on deer recruitment and population trends;
- annually, winter severity and habitat conditions influence the amount of predation, which overall was the dominant source of mortality of adult females and fawns. This illustrates the importance of considering all potential limiting factors and their interactions.

These results support results of other surveys suggesting that consecutive harsh winters that have occurred since 2008 have resulted in low deer populations in the region, including in this DMU.

## Agricultural Crop Damage

The number of crop damage complaints is a reliable indicator of relative deer numbers, in this unit. During the past 10 years, an average of 3-4 farms have been issued Deer Damage Shooting Permits, resulting in the harvest of about 20 deer per year. The number of permits issued dropped to 1 in 2016 with no deer harvested. Over the last 5 years, an average of 15 DMAPs were issued and deer harvest

dropped 36% (averaging 95 deer), annually. Most farms have been able to adequately address deer numbers with Deer Management Assistance Permits (DMAPs) during the regular hunting seasons. Crop damage is not a major problem in this unit, but it is significant to the farms that experience deer problems.

### Forest Regeneration Concerns

Forest managers have expressed concerns about tree regeneration problems at times in this DMU. DMAPs have also been issued to forest management companies to address specific areas where forest regeneration impacts have been a concern. Forest managers typically welcome antlerless deer harvest opportunities in this unit.

### Deer-Vehicle Collisions

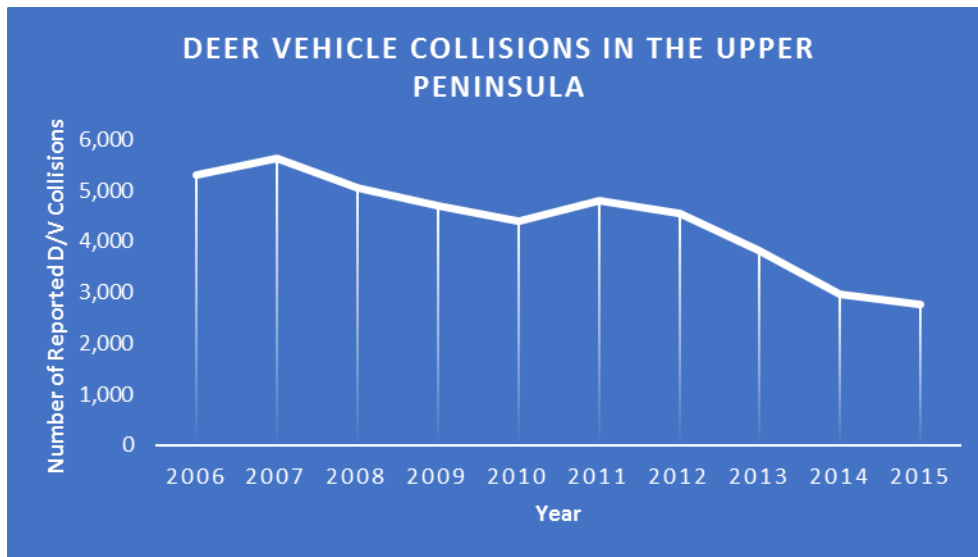


Figure 3: Deer-vehicle collisions in the U.P., 2006 – 2015.

Reported deer-vehicle accidents, adjusted for traffic volumes, have declined in the U.P. over the last decade.

### Deer Condition Data

A sample of hunter-harvested deer is examined at check stations each fall. The diameter of antler beams, measured 1 inch above the pedicel, is measured on 1.5-year-old bucks as an index of physical condition. Antler beam diameters have varied little in the U.P. region during the past decade.

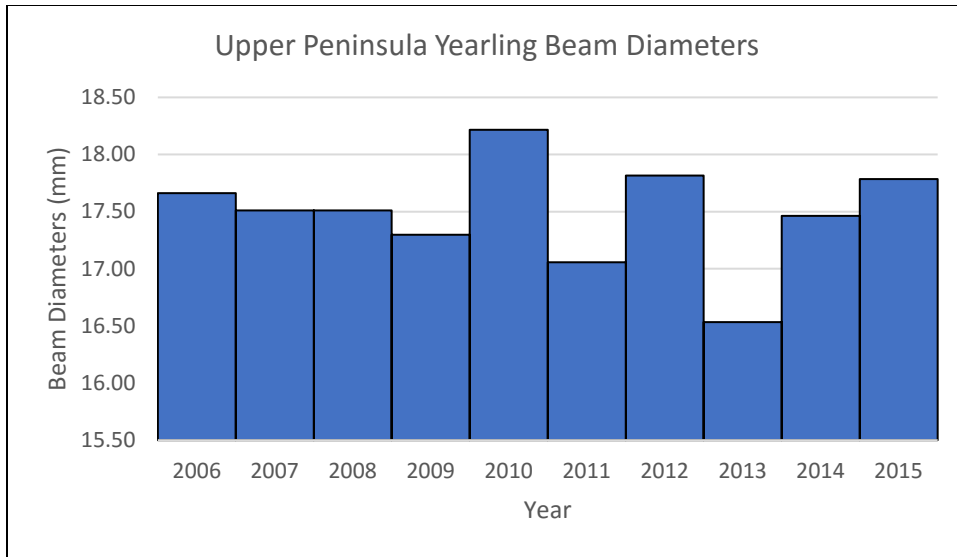


Figure 4: U.P. Yearling Beam Diameters, 2006 – 2015.

### Deer Management Recommendations

We recommend DMU 022 be “closed” for the issuance of private and public land antlerless licenses. This deer herd needs time to recover from previous difficult winters. If significant recovery is observed, consideration will be given to the issuance of a conservative quota of antlerless permits to provide harvest opportunity while antlerless archery harvest remains restricted, during this multi-year regulation period. Concerns regarding agriculture and forest regeneration can be addressed through the issuance of Deer Damage Permits and Deer Management Assistance Permits. DMU 022 hunters participating in the 2016 Deer Camp Survey reported that they observed 3.2 deer per hunter day and a fawn to doe ratio of 60 fawns per 100 does which is a significant increase from the last few years. Forty-two percent of hunters reported seeing more deer than last year, however, 87 % report a fair to poor hunting season indicating the deer population is still recovering from difficult winters. Discussions with hunters at deer registration stations and during sportsmen’s meetings revealed that hunters saw significantly more fawns and an increase in yearling bucks. This indicates more harvestable bucks will be available in upcoming years, given favorable winter conditions.

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